



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,605	01/27/2004	Bo Valdemar Vaaben	7784-000948	1393

27572 7590 08/18/2010
HARNESS, DICKEY & PIERCE, P.L.C.
P.O. BOX 828
BLOOMFIELD HILLS, MI 48303

EXAMINER

JOSEPH, TONYA S

ART UNIT

PAPER NUMBER

3628

MAIL DATE

DELIVERY MODE

08/18/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/765,605

Applicant(s)

VAABEN ET AL.

Examiner

TONYA JOSEPH

Art Unit

3628

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 45-54 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 45-54 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/CD)
Paper No(s)/Mail Date ____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Status of Claims

Claims 45-52 have been previously examined. Claims 45 and 52 have been amended. Claims 53-54 have been added. No claims have been cancelled. Thus, claims 45-54 are presented for examination.

Response to Arguments

Applicant's arguments filed 06/02/2010 have been fully considered but they are not persuasive.

Applicant argues that Slivka does not teach data identifying crew members being used in an optimization problem. Contrary to Applicant's assertion, Yu, not Slivka, was relied upon to teach data identifying crew members being used in an optimization problem. Applicant further argues that Slivka does not teach the disruption including penalty cost information relating to available actions that may be taken to recover from the disruption. The Examiner disagrees. Slivka plainly teaches

In one aspect of the invention, a disrupted passenger may be re-accommodated based on an overall value of the passenger's aggregate business compared to other passengers on a same disrupted travel service (e.g., flight).

The process maximizes long-term recovered passenger revenue through optimal reassignments of available seats to disrupted passengers as well as additional measures of individual passenger re-accommodation in the aftermath of an operational disruption, including ancillary travel services such as hotel, car rental, etc. The process also maximizes the number of passengers who are accommodated on an original carrier and thus **minimizes the provider cost** of moving passengers to a different airline or an ancillary travel provider.

Art Unit: 3628

All that is required by the claim language is "...the disruption including ... penalty cost information relating to available actions that may be taken to recover from the disruption..." The cost of moving passengers from one airline to another is a penalty cost that is related to available actions that may be taken to recover from the disruption. This is plainly taken into consideration when solving the disruption problem, as described in the cited portion of *Slivka*. Accordingly, Applicant's arguments are not persuasive and the rejection is maintained.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Applicant further argues that Yu has "absolutely nothing to do with determining how a given group of passengers on a given aircraft is to be

Art Unit: 3628

rescheduled". The Examiner disagrees. Yu is plainly directed to rescheduling displaced passengers on aircrafts. Specifically Yu teaches:

SUMMARY OF THE INVENTION

An automated, real-time, decision support system for reassigning, rescheduling, and rerouting aircraft in response to flight operation disruptions, in which **sets of optimal solutions are provided through use of evaluation statistics such as** the quantity of cancelled flights, **cancelled passengers**, delayed flights, **delayed passengers**, delayed flight minutes, swapped flights, **and displaced passengers**, as well as flight revenue and the costs related to flight operations, flight cancellations, flight delay minutes, flight swaps, **and displaced passengers**, to assist operations management in selecting the optimal solution best conforming to operational constraints and user requirements (see Col. 4 lines 33-44).

As plainly shown above, Applicant's assertions that Yu is not concerned with rescheduling passengers on an aircraft is baseless. Applicant's narrowing of claim 52 to include a fleet engine, a crew engine and a passenger engine does nothing to remedy the obviousness of the claim and the invention as a whole. It is obvious, as shown by the applied references, that considering the impact of passengers, crew and a fleet when trying to or schedule passengers and/or solve an optimization problem is very old and well known. Applicant's arguments are not persuasive and this action will be properly made FINAL.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 45-48 and 50-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Slivka U.S. Pre-Grant Publication No. 2003/0225600 A1 in view of Yu U.S. Patent No. 6,314,361 B1 in further view of Official Notice.

3. As per claim 45, Slivka teaches
providing scheduling information in a computer readable medium for the at least one affected mobile platform and for other mobile platforms to a computer system that implements an integration engine (see para. 36);
using the integration engine and the scheduling information to generate a disruption specification based upon an event (see para. 36), the disruption specification including data identifying passengers and crew members needing to be rescheduled from travel on an initial mobile platform, and penalty cost information relating to available actions that may be taken to recover from the disruption and to rebook passengers on an alternative itinerary (see para. 36 and claim 13);
using a processing subsystem to implement at least two of:
a fleet engine to obtain information from the integration engine regarding the disruption specification, and to generate information relating to alternative mobile

Art Unit: 3628

platforms that are available for use in connection with a new itinerary (see para. 36, the Examiner is interpreting the re-accommodation driver to be the fleet and passenger engine);

a crew engine to obtain information from the integration engine regarding the disruption specification, and generate information relating to constraints for crew members scheduled to travel on the initial mobile platform;

and a passenger engine to generate information relating to constraints affecting passengers scheduled for travel on the initial mobile platform (see para. 36); and wherein at least one of the fleet engine, the crew engine and the passenger engine generate rescheduling solutions for a group comprising one of the passengers or the crew members.

Slivka does not explicitly teach the limitation taught by Yu the disruption specification including data identifying crew members (see Col. 8 lines 1-12). It would have been prima facie obvious to one of ordinary skill in the art at the time of invention to modify the method of Slivka to include the teachings of Yu to provide re-accommodation options for all subjects aboard a disrupted mobile platform. While Slivka does not explicitly disclose that the above steps are done simultaneously in parallel, there is nothing the method as performed by Slivka that would preclude the flight and passenger information being obtained simultaneously and in parallel. The decision to perform the steps simultaneously and in parallel is a mere design choice and does not render the claim unobvious. *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975) (the particular placement of a contact in a conductivity measuring device was held to be an obvious matter

Art Unit: 3628

of design choice). The re-accommodation driver is not explicitly referred to as distinct "engines", however identity of terminology in a prior art reference is not a requirement for anticipation under § 102 or obviousness under §103. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

4. As per Claim 46, Slivka in view of Yu teaches the method of claim 45 as described above. Slivka further teaches using the integration engine to obtain the information generated by one or more of the fleet engine, the crew engine and the passenger engine, and to use the obtained information to determine potential rescheduling solutions acceptable for the passengers (see para. 36 and 47). Yu teaches rescheduling solutions for crew members (see Col. 8 lines 1-12). It would have been prima facie obvious to one of ordinary skill in the art at the time of invention to modify the method of Slivka to include the teachings of Yu to provide re-accommodation options for all subjects aboard a disrupted mobile platform.

5. As per Claim 47, Slivka in view of Yu teaches the method of claim 45 as described above. Slivka further teaches using each of the re-accommodation driver to generate information to be considered by the integration engine (see para. 36). Although Slivka does not teach separate engines, the mere duplication of parts has no patentable significance unless a new and unexpected result is produced. *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960) Yu teaches using a crew engine to generate information (see Col. 8 lines 1-12). It would have been prima facie obvious to one of ordinary skill in the art at the time of invention

Art Unit: 3628

to modify the method of Slivka to include the teachings of Yu to provide re-accommodation options for all subjects aboard a disrupted mobile platform.

6. As per 48, Slivka in view of Yu teaches the method of claim 48 as described above. Slivka further teaches wherein the integration engine creates the disruption specification using: a time frame within which the rescheduling solutions are to be carried out, the time frame comprising midnight of the day that the scheduling disruption occurs (see para. 52); and resources including identifying one or more mobile platforms that have been affected by the scheduling disruption (see para. 36).

7. As per Claim 50, Slivka in view of Yu teach the method of claim 45 as described above. Slivka further teaches wherein:
the engine operates to generate initial information related to at least one of:
connection constraints for the crew members;
a cancellation penalty cost value (see para. 23 and claim 13); and
crew member limitations involving at least latest crew departure times that may be permitted under rules or laws governing work of crew members on the mobile platform; and
wherein the engine generates information related to at least one of:
available standby mobile platforms;
cancellation penalties (see para. 23 and claim 13); and
a preferred latest departure time of any one or more mobile platforms affected by the scheduling disruption.

Art Unit: 3628

The re-accommodation driver is not explicitly referred to as distinct "engines", however identity of terminology in a prior art reference is not a requirement for anticipation under § 102 or obviousness under §103. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

8. As per Claim 51, Slivka in view of Yu teach the method of claim 45 as described above. Slivka further teaches wherein:

wherein the passenger engine operates to generate the information used for generating potential rescheduling solutions by creating a plurality of subproblems (see para. 7), with each said subproblem defining a set of all passengers that are displaced from the same segment of travel of the initial itinerary (see para. 7 and 46); wherein the passenger engine applies a first algorithm to the subproblems, where the first algorithm is constrained to the initial itinerary for each passenger in each said subproblem, to generate alternative itineraries for a first subset of all of the passengers (see para. 14 and 34), and further identifying those passengers excluded from the first subset that have been deemed to be unsuitably rescheduled through the use of the first algorithm (see para. 46 and 47); and further comprising using a second algorithm that is not constrained to the initial itinerary, for those said passengers defining a second subset of all the passengers, that were deemed to be unsuitably rescheduled through the rescheduling solutions generated by the first algorithm, to generate additional rescheduling solutions for the second subset of passengers (see para. 47 and 51).

Art Unit: 3628

9. Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Slivka U.S. Pre-Grant Publication No. 2003/0225600 A1 in view of Yu U.S. Patent No. 6,314,361 B1 in further view of Official Notice.

10. As per Claim 49, Slivka in view of Yu teaches the method of claim 45 as described above. Slivka further teaches wherein one or more of the fleet engine, the crew engine and the passenger engine evaluate feasibility and penalty cost information in generating the potential rescheduling solutions (see para. 50 and claim 13). Slivka does not explicitly teach evaluating the legality in generating a potential solution. Official Notice is taken that considering legality in generating a potential solution is old and well known in the art of travel systems). It would have been prima facie obvious to one of ordinary skill in the art at the time of invention to modify the methods of Slivka and Yu to include the teachings of Official Notice to be ensure compliance with FAA rules.

11. Claims 53-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Slivka U.S. Pre-Grant Publication No. 2003/0225600 A1 in view of Yu U.S. Patent No. 6,314,361 B1 in further view of Yu et al. U.S. Patent No. 6,408,276 B1, (hereinafter; "Yu II").

12. As per Claim 53, Slivka teaches providing scheduling information in a computer readable medium for the at least one affected mobile platform and for other mobile platforms to a computer system that implements an integration engine (see para. 36); using the integration engine and the scheduling information to generate a disruption specification based upon an event (see para. 36), the disruption specification including data identifying passengers and crew

Art Unit: 3628

members needing to be rescheduled from travel on an initial mobile platform, and penalty cost information relating to available actions that may be taken to recover from the disruption and to rebook passengers on an alternative itinerary (see para. 36 and claim 13);

and a passenger engine to generate information relating to constraints affecting passengers scheduled for travel on the initial mobile platform (see para. 36); wherein the potential rescheduling solutions are presented in: a first subset of the passengers that have rescheduling solutions that are deemed to be acceptable; and a second subset of the passengers not included in the first subset that are deemed to be unacceptably rescheduled (see para. 46-47 and 51);.

Slivka does not explicitly teach the limitation taught by Yu, using the integration engine to obtain the information generated by the crew engine and the passenger engine to determine potential rescheduling solutions acceptable for both the passengers and the crew members (see Col. 8 lines 1-15 and Col. 4 lines 33-44)

a crew engine to obtain information from the integration engine regarding the disruption specification, (see Col. 8 lines 1-15); Yu does not explicitly teach the limitation taught by Yu II, and generate information relating to constraints for crew members scheduled to travel on the initial mobile platform the constraints including connection constraints for crew members and latest departure times for crew members (see Col. 15 lines 56-67 and Col. 16 lines 1-24). It would have been prima facie obvious to one of ordinary skill in the art at the time of invention to modify the method of Slivka to include the teachings of Yu and Yu II to provide

Art Unit: 3628

re-accommodation options for all subjects aboard a disrupted mobile platform.

While Slivka does not explicitly disclose that the above steps are done simultaneously in parallel, there is nothing the method as performed by Slivka that would preclude the flight and passenger information being obtained simultaneously and in parallel. The decision to perform the steps simultaneously and in parallel is a mere design choice and does not render the claim unobvious *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975) (the particular placement of a contact in a conductivity measuring device was held to be an obvious matter of design choice). The re-accommodation driver is not explicitly referred to as distinct "engines", however identity of terminology in a prior art reference is not a requirement for anticipation under § 102 or obviousness under §103. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

13. As per Claim 54, Slivka in view of Yu in further view of Yu II teaches the method of claim 53 as described above. Slivka further teaches using a fleet engine to obtain information from the integration engine regarding the disruption specification and information relating to alternative mobile platforms that are available for use in connection with a new itinerary; and using the information relating to alternative mobile platforms in forming the potential rescheduling solutions (see para. 14 and 49).

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.**

Art Unit: 3628

See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TONYA JOSEPH whose telephone number is (571)270-1361. The examiner can normally be reached on Mon-Fri, 7:30 am-5:00pm First Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Hayes can be reached on 571 272 0847. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3628

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Shannon S Saliard/

Primary Examiner, Art Unit 3628